REMARKS

By this Amendment, claims 1-18 are cancelled, and claims 19-37 are added. Thus, claims 19-37 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

In item 2 on page 2 of the Office Action, claims 10, 12, 14, 15 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Engleson et al. (U.S. 5,781,442) in view of Bloom et al. (U.S. 6,070,761). In item 9 on page 4 of the Office Action, claims 11 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Engleson et al. in view of Bloom et al. and further in view of Merki et al. (U.S. 5,002,055). In item 12 on page 5 of the Office Action, claims 13 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Engleson et al. in view of Bloom et al. and further in view of Mayaud (U.S. 5,845,255).

These rejections are believed to be moot in view of the cancellation of claims 1-18. Furthermore, the Applicants respectfully submit that these rejections are inapplicable to new claims 19-37 for the following reasons.

The present invention provides an apparatus for supporting injection mixing work. If a plurality of injections which are prescribed to a patient are not mixed in a proper mixing order, a composition alteration, for example, will be caused, and a disadvantage of a waste of injections which are mixed previously will also be caused. Thus, the novel feature of the present invention is supporting the mixing work of a plurality of injections which are prescribed to a patient by deciding a proper mixing order such that there is little or no danger of causing a composition alternation or an incompatibility of the plurality of injections which are included in the acquired injection prescription data. The decided proper mixing order of the injections is then displayed on a display unit in order to support an operator of the apparatus.

New claim 19 recites an apparatus for supporting injection mixing work. The apparatus of new claim 19 comprises an acquisition unit operable to acquire an injection prescription data including data specifying a plurality of injections which are prescribed to a patient. The apparatus of new claim 19 also comprises a decision unit operable to decide a proper mixing order of the plurality of injections included in the injection prescription data acquired by the acquisition unit. The apparatus of new claim 19 also

comprises a display unit operable to display an indication representing the mixing order decided by the decision unit.

Engleson et al. discloses a patient management system which is capable of monitoring, controlling and tracking the administration of care in a health care institution (see Column 2, lines 24-27). That is, the patient management system of Engleson et al. merely conducts a management when dosing injections to patients. The apparatus of the present invention, however, as described above, decides a proper mixing order of the plurality of injections, and displays an indication representing the decided mixing order.

Nonetheless, despite this clear difference in both purpose and effect between Engleson et al. and the apparatus of the present invention as recited in new claim 19, the Examiner is maintaining his reliance on the disclosure of Engleson et al. In particular, the Examiner, in item 16 on page 6 of the Office Action, interprets Engleson et al. as disclosing "a controller that determines and displays the mixing order of injections for various patients." The Examiner references Figures 9-10 of Engleson et al. to support this interpretation.

However, Figures 9-10 of Engleson et al. do not illustrate a mixing order of a plurality of injections. Instead, Figures 9-10 of Engleson et al. merely disclose an administration schedule for a particular patient, i.e., what time (10:00 to 14:00) the medicines are to be administered to the patient.

Even if Figures 9-10 Engleson et al. are unreasonably interpreted as disclosing a "mixing order," Figures 9-10 of Engleson et al. clearly do not disclose a **proper** mixing order of the plurality of injections included in the acquired injection prescription data, as recited in new claim 19.

That is, Engleson et al. merely discloses a care management system 30 in which the management of the administration of care for patients is automated between a plurality of stations in a medical facility and/or a pharmacy. The care management system 30 is disclosed as allowing medical professionals such as nurses to monitor and regulate, in real-time, the administrations for patients. However, the care management system 30 is merely limited to monitoring or verifying "that medication is administered to the right patient, in the right dose, along the right route, and at the right time" where such monitoring is performed by the network of the care management system 30 (see

column 8, lines11-13). In other words, the care management system 30 is merely a real-time verification that a patient receives the proper medications and/or treatment that were prescribed according to a physician's specific directions. In order to ensure that patients are cared for according to a physician's orders, the care management system 30 includes a medical administration management module 110.

The medical administration management module 110 is capable of integrating medical order information, infusion pump monitoring and bar code technology so as to support the real-time verification and charting of medications being administered to a patient (see column 6, lines 54-58). In addition, the medical administration management module 110 is disclosed as creating and maintaining an online, real-time, patient-specific medication administration record (MAR) or an integrated medication administration record (IMAR) for each patient. In other words, the medical administration management module 110 is capable of storing and gathering all of the information generated for the proper care of a patient and disseminating such information over the network (see column 6, lines 58-65). For instance, the medical administration management module 110 is disclosed as recording the start time, duration and end time of an infusion to a patient (see column 8, lines 14-29), maintaining an online, real-time graphical medical administration record of each patient that includes past, present and future medications (see column 8, lines 30-38), and allowing nurses to perform online queries of a patient's MARs in order to assist the nurse to plan medication administration and to schedule the work load of dispensing the medication to a number of patients for which a nursing unit is responsible (see column 8, line 66 to column 9, line 16).

Therefore, Engleson et al. merely discloses that the medical administration module 110 "assists" the nurse or other health care professional to efficiently deliver care to the patients by providing the nurse the ability to perform online queries of the patients MARs and by producing reports that are designed to "assist the nurse in planning medication administration and in scheduling the workload of dispensing the medication to the many patients for which a nursing unit is typically responsible" (see column 8, lines 66 to column 9, line 6). In other words, with reference to figure 9 of Engleson et al., the medical administration management module 110 merely provides a visual display of a patient's IMAR which indicates all of the medications that were prescribed for a patient,

the times that the medications are to be given, and the amounts of each medications so as to "assist" the nurse in ensuring that each medication is given on the prescribed time and for the prescribed amounts. The IMAR of figure 9 is pre-generated and merely contains each of the medications that were prescribed for a particular patient, and the task list of figure 10 is merely a schedule of drug administration for a number of patients which "assists" the nurse to plan accordingly so as to "ensure that all medication is given promptly" (see column 9, lines 6-16). Accordingly, the medical administration management module 110 merely generates a visual display of a patient's MAR or IMAR to illustrate each of the prescribed medications, the times the medications are to be given, and the amounts of each medication for the patient.

Accordingly, the care management system 30 of Engleson et al., together with the medical administration management module 110, is merely a system for ensuring that the proper medicine is delivered to the proper patient after the medicine is prescribed by a doctor and obtained from a pharmacy or hospital medicine storeroom. In other words, the care management system 30 of Engleson et al. is merely an integrated network system that assists nurses in ensuring that each patient receives the medicinal care that was prescribed by monitoring and checking the patient care for each patient in real-time.

Despite the clear disclosure of Engleson et al. as discussed above, the Examiner insisted, in item 16 on pages 6-7 of the Office Action, that Engleson et al. "very clearly teaches that a mixing order is determined in accordance with patient data and injection data and displayed on a screen as shown in Figures 8 and 9." The Examiner further opined that "the fact this output is used to assist nurses or health care professionals in care deliver[y]...does not change the fact that the medical administration management module [110] determines the mixing order in accordance with the identified input data."

The Applicants respectfully submit that the Examiner is unreasonably interpreting Engleson et al. as disclosing that the medical administration management module 110 determines a mixing order. The Examiner refers to Figues 8-10 to support this unreasonably broad interpretation of Engleson et al. However, as described above, the medical administration management module 110 merely provides a visual display of a patient's IMAR which indicates all of the medications that were prescribed for a patient, the times that the medications are to be given, and the amounts of each medications so as

to assist the nurse in ensuring that each medication is given on the prescribed time and for the prescribed amounts. The Applicants searched in vain for any disclosure whatsoever in Engleson et al. for deciding a **proper** mixing order, since Engleson et al. merely discloses that a pre-generated IMAR of Figure 9 contains each of the medications that were prescribed for a particular patient, and that the task list of Figure 10 is merely a schedule of drug administration for a number of patients which "assists" the nurse to plan accordingly so as to "ensure that all medication is given promptly" (see column 9, lines 6-16). However, even if the Examiner maintains his unreasonably broad interpretation that Engleson et al. somehow discloses determining a mixing order, the Applicants respectfully submit that the above-referenced portions and Figures 8-10 of Engleson et al. clearly do not disclose a **proper** mixing order of the plurality of injections included in the acquired injection prescription data, as recited in new claim 19.

Therefore, Engleson et al. clearly does not disclose or suggest a decision unit operable to decide a **proper** mixing order of the plurality of injections included in the injection prescription data acquired by the acquisition unit, as recited in new claim 19.

Bloom et al. discloses an automated medication management system which automatically and mechanically conducts the admixture (including reconstruction and dilution) and delivery of intravenous drugs to patients by using a cassette 77 and a fluid delivery module 88 (see Column 15, lines 31-67 and Figures 7 and 8). The apparatus of the present invention, as recited in new claim 19, does not conduct the actual mixing work of injections but instead decides a **proper** mixing order of a plurality of injections and displays the decided mixing order in order to provide support to a mixing operator to conduct the mixing work of injections.

Accordingly, similar to Engleson et al., Bloom et al. also does not disclose or suggest a decision unit operable to decide a **proper** mixing order of the plurality of injections included in the injection prescription data acquired by the acquisition unit, as recited in new claim 19.

Therefore, no obvious combination of Engleson et al. and Bloom et al. would result in the invention of new claim 19 since Engleson et al. and Bloom et al. fail to disclose or suggest, either individually or in combination, each and every limitation of new claim 19.

Accordingly, new claim 19 is clearly patentable over Engleson et al. and Bloom et al.

Merki et al. discloses a gastric pH sensor 1 for intraluminally measuring the H^+-ion activity of gastric juices. Merki et al. also discloses that the measured pH data resulting from the infusion of a primary medication are stored and compared with the reference values that are stored in a microprocessor. Merki et al. discloses that, during the infusion of a prescribed medication, another medication can be combined with the prescribed medication when the measured pH values are deemed to be unacceptable so as to achieve the desired therapy objective.

Mayaud discloses reviewing for contraindications of drugs and for special precautions, such as a patient's allergies, for a drug's use. However, Mayaud merely discloses a prescription management system for avoiding possible drug-to-drug interactions with other drugs that have been previously prescribed (see column 31, lines 19-24 and 33-39). That is, Mayaud merely discloses a screening or reviewing system for avoiding possible unintended adverse outcomes between a previously prescribed medication and a possible new medication that is to be prescribed to a patient. That is, Mayaud merely discloses a screening process for avoiding possible adverse outcomes between previously prescribed medications and a possible new medication.

However, similar to Engleson et al. and Bloom et al., Merki et al. and Mayaud each fail to disclose or suggest a decision unit operable to decide a **proper** mixing order of the plurality of injections included in the injection prescription data acquired by the acquisition unit, as recited in new claim 19.

Therefore, Merki et al. and Mayaud clearly do not cure the deficiencies of Engleson et al. and Bloom et al. for failing to disclose or suggest each and every limitation of new claim 19.

Thus, no obvious combination of Engleson et al., Bloom et al., Merki et al. and Mayaud would result in the invention of new claim 19 since Engleson et al., Bloom et al., Merki et al. and Mayaud, either individually or in combination, fail to disclose or suggest each and every limitation of new claim 19.

Therefore, it is submitted that the new claim 19, as well as new claims 20-37 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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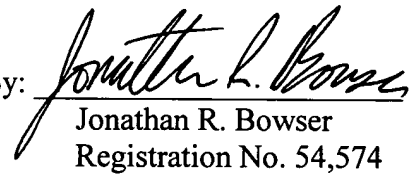
By: 

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